

**Statement of Dr. David O. Overskei**  
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**of the**  
**Secretary of Energy Advisory Board**  
**to the**  
**Strategic Forces Subcommittee**  
**of the**  
**House Committee on Armed Services**  
**hearing on the topic of**  
**The National Nuclear Security Administration's (NNSA) Future Plans for the Nuclear**  
**Weapons Complex Infrastructure**  
**April 4, 2006**

Chairman Everett, Representative Reyes and members of the Committee, thank you for the opportunity to appear before you today to discuss the work of the Nuclear Weapons Complex Infrastructure Task Force. I hereby submit my written testimony and request that it be included in the Congressional Record.

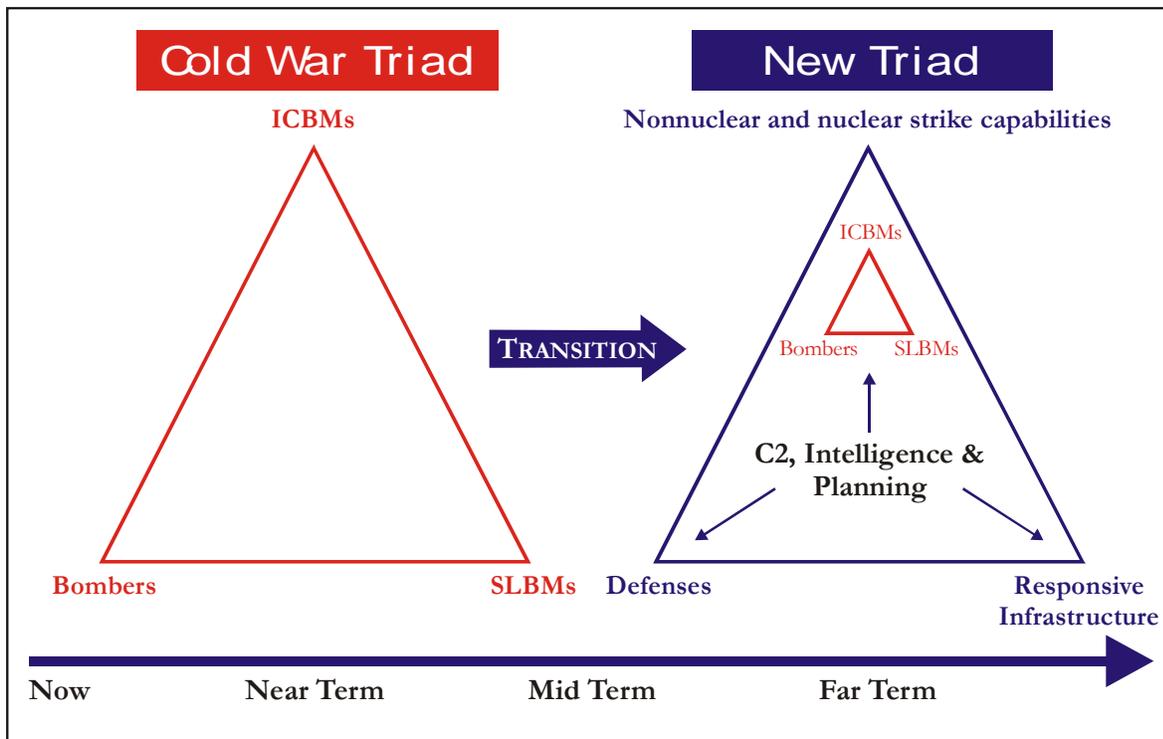
To give you some context, our Task Force was established as result of a commitment made by the Secretary of Energy to the House Appropriations Subcommittee on Energy and Water in testimony on March 11, 2004. This commitment was recognized and mandated in the House Energy and Water Appropriations Bill for FY 2005. Based on the legislative request, in January 2005 the Secretary of Energy requested the Secretary of Energy Advisory Board (SEAB) to form the Nuclear Weapons Complex Infrastructure Task Force (NWCITF) reporting to the SEAB. Our charge was to

“...gather data, define options and develop recommendations that, if implemented, will create a smaller, modern Complex infrastructure that is responsive to post-cold war mission requirements.”

I and five colleagues, along with four support staff provided by the NNSA, worked virtually full time on this effort from the period of February 2005 until July 2005. We completed our report in July 2005 and it was submitted to and accepted by the Secretary of Energy Advisory Board on October 4, 2005. We believe that our conclusions represent a vision for the future that meets this Nation's national security requirements and the needs of all of the Complex stakeholders, but we recognize that our report does not reflect the desires of all the stakeholders. I hereby submit our report, Recommendations for the Nuclear Weapons Complex of the Future, for the record.

I want to spend a few minutes discussing our process, because it included a broad range of stakeholders in addition to personnel inside the Complex. We began the process by studying the demands and diverse constraints being placed upon the DOE's nuclear weapons Complex. This was achieved by interviewing senior personnel at the National Security Council, the Office of the Secretary of Defense, members of the Nuclear Weapons Council, the Executive Officers and their staff responsible for nuclear weapons systems in the Navy and the Air Force, the Commander of US Strategic Command, the Office of Management and Budget, the staff and members of Congress who have oversight of the DOE nuclear weapons programs, and senior members of the National Nuclear Security Administration.

It is apparent that the demands on the Complex are evolving and sometimes conflicting. The President's directive of a stockpile of 1700-2200 nuclear weapons by 2012 defined a much reduced capacity requirement for the Complex. In addition, the capabilities based deterrence posture, as articulated by the Department of Defense in their New Triad, establishes clear near term mission objectives and performance metrics for the DOE's nuclear weapons complex. In this New Triad, a responsive nuclear weapons Complex and a reliable nuclear weapons stockpile are essential parts of two of the three elements.



We also solicited perspectives from experts who have had direct interaction with the nuclear weapons Complex in the recent past. Of particular value was our review of the numerous previous studies of the nuclear weapons Complex. I shall dwell on this last point, because I believe it is important.

Since 1980 there have been more than 12 extensive and detailed studies to evaluate and propose changes to the composition and structure of the nuclear weapons Complex. Sandia National Laboratories provided us with an excellent summary of these past studies. I hereby submit their report for the record since it provides a valuable perspective on the challenges of implementing change in the nuclear weapons Complex. We were sobered by the extent and substance of the previous studies, noting that, generally, few of these efforts had much impact on the Complex. This gave us pause as to our ability to really effect change.

### **Task Force observations of the current Complex**

With the above as context, we began our visits to the eight sites that currently represent the DOE's nuclear weapons Complex. It is apparent that the Complex is struggling to transition from the Cold War approach and Cold War weapons to a new, more agile Complex. We did not find an integrated unified Complex; rather we found a set of independent laboratories and production plants, individually striving to sustain their past rather than preparing for the future. In particular, from a "customer perspective," the DoD does not consider the Complex productive or responsive, and none of the stakeholders view the Complex as responsive in the context of the New Triad.

From a capability perspective, the three design laboratories have been upgraded with state-of-the-art design and testing capabilities in advanced computing, simulation and non-nuclear component testing. The science based Stockpile Stewardship Program (SSP) investments have greatly increased our characterization of weapons materials and understanding of nuclear weapons physics. However, the design laboratories have not produced a new design in over fifteen years and struggle to resolve current stockpile issues in a timely fashion.

From a production perspective, the production Complex operates in World War II and early 1950's era facilities, lacking in modern production technology and processes. The production sites of the Complex routinely fail to meet current warhead refurbishment requirements. A DOE "modernization-in-place" plan sustains the old sites, augmented with a few dispersed modern facilities. This approach will not result in a responsive 21<sup>st</sup> century nuclear weapon complex or production capability.

From a security perspective, significant quantities of plutonium and highly enriched uranium, Special Nuclear Materials (SNM), are located at six of the eight Complex sites. The security costs alone are rapidly approaching \$1B per year, largely driven by the mandated and arbitrary response to the Design Basis Threat associated with the presence of SNM or nuclear weapons. Owing to the geography and facility constraints at these six sites, the security measures taken have adverse effects on productivity and responsiveness, and there are no foreseeable bounds on future security costs. A more reasoned approach needs to be considered.

From the management perspective, there is not a unified interdependent nuclear weapons enterprise vision or set of mission priorities. Instead the following was found:

- The Nuclear Weapons Council does not provide the leadership and decisive direction that had been demonstrated in the past,
- The DoD does not operate as a partner with DOE. The DoD does not provide DOE with unified and integrated weapon requirements,
- The DOE management has burdened the Complex with rules and regulations that focus on process rather than mission performance, productivity, and responsiveness.

Cost/benefit analysis and risk informed decisions are absent, resulting in a bureaucratic risk-averse posture at all management levels,

- The Complex does not operate as an integrated enterprise with a shared purpose. The physics design laboratories aggressively seek independence rather than cooperative interdependence, resulting in redundant programs and facilities, increasing costs and reducing productivity.

Finally the Cold War stockpile, although safe and reliable, does not have the surety controls or the operating margins that the DoD desire. The Cold War Stockpile is sustained through an expensive Life Extension Program (LEP), resulting in old weapons (the newest designed in the mid 80s and the oldest a derivative of a 60s design) with some new components. This stockpile is already a legacy that requires an extensive maintenance program, may not be well suited to future threats, and the future maintenance and surveillance cost liabilities are unbounded.

In summary, the Task Force found a Complex neither robust, nor agile, nor responsive, with little evidence of a master plan. However, the Task Force did find a Complex with skilled and talented professionals who seek to carry out the nuclear weapon Complex mission. In addition, the Task Force noted a generation of young professionals entering the Complex because of a sincere desire to participate in sustaining an effective nuclear deterrence for the future, but uninterested in geriatric weapon care.

### **Task Force Vision for the Complex of 2030**

The Task Force recognizes that nuclear weapons are an important part of our current and future deterrence posture. We do not now know, nor can we predict, the composition of the stockpile of the future or any specific weapon characteristic.

Thus, for our analysis, we envisioned a Complex that would support the current stockpile as it evolved to a stockpile comparable in size to the President's directive of 1700-2200 weapons by 2012. A complex that can support that stockpile could of course support a smaller stockpile as well. We also assumed that the ratio between ICBM, SLBM, and air delivery warheads would be comparable to the present ratio, although the actual numbers would be different. The officers responsible for nuclear weapons in the Air Force, Navy and STRATCOM, and members of OSD confirmed that a complex that could produce 125 "new" weapons to the stockpile each year would meet DoD productivity metrics. For our purposes, we envisioned that the Complex of 2030 would also be dismantling 125 weapons from the stockpile each year, thus a steady state stockpile.

Our vision has the Complex in steady state design, production, and dismantlement. This continuous exercising of all of the Complex capabilities is an essential element of deterrence, critical to our vision of a Complex that contributes to deterrence through its capabilities, not just through the stockpile it produces and maintains. This type of deterrence is different from that achieved by the existence of a reliable nuclear weapon stockpile, since it is the Complex that can

respond to the unknown threat to our security, not the stockpile. In keeping with these boundary conditions, we envision a nuclear weapons Complex of 2030 with several key attributes:

**Agility** - This means a broad scientific and engineering intellectual capital base at the design laboratories. This base would innovate, conceive and test feasible solutions to address any future threat to our national security. This should not be facility driven since the facilities of the past may not be relevant to the threats of the future.

**Automated production** – The production portion of the Complex would be highly integrated and modernized with automated precision equipment to facilitate rapid transition from concept to prototype to production. The Complex should be capable of adding 125 weapons to the stockpile, of any type, in any year, single shift operation.

**Responsive** – Responsiveness is the ability to meet the national security (as determined by DoD, DHS, NSC) requirements in a timely fashion: 12 months to fix a problem, 18 months to develop a solution to a new military need, 36 months to prototype, 48 months to production, and the ability to resume testing in 18 months. It is felt that these time scales could credibly be further reduced by a factor of 2. This also implies a management and leadership organization capable of making timely decisions that balance risk, benefit, performance, and cost.

We believe that these attributes must be constantly exercised, demonstrated, and tested for the Complex to be an effective contributor to the New Triad of deterrence. Thus, our vision would have the Complex continuously designing, testing, producing and dismantling nuclear weapons on a regular schedule.

With such a Complex, it is possible and desirable to replace and dismantle the Cold War Stockpile with approximately 2200 sustainable nuclear weapons of equivalent military characteristics by 2030. These weapons would incorporate advanced surety and use controls, have higher margins, be safer to produce and cheaper to maintain over their lifetime. In aggregate, we believe that a Complex with these attributes could well justify a substantial reduction in both the deployed and reserve nuclear weapon stockpile without compromising our national security or our deterrence posture.

### **Task Force Recommended Actions to Realize the Vision**

The Task Force submits the following recommendations as implementation steps to transform the nuclear weapons Complex into an agile, responsive organization. Furthermore, the act of implementing these recommendations will contribute directly to two of the three elements of the New Triad. The recommendations in priority order are:

#### **Immediate design of a Reliable Replacement Warhead (RRW)**

The Task Force recommends the immediate initiation of the modernization of the stockpile through the design of a Reliable Replacement Warhead. The RRW is not only a weapon, but also a process whereby one achieves the sustainable stockpile of the future. Within the current military requirements the RRW should be designed for production with: 1) current requirements of surety and use control, 2) higher margin, 3) utilization

of readily available materials that do not pose undue hazards to the Complex workforce, and 4) reduced production, maintenance, and disposition costs over the weapon life-cycle. The Task Force recommends that successive versions of the RRW, incorporating new design concepts and surety features, be initiated on planned five-year cycles. Based on the Stockpile Stewardship investments made in the design laboratories, the Task Force is confident that RRW's as described above can be designed and certified without underground testing. If each version of the RRW replaces ~20% of the cold war stockpile, then by 2030 the cold war stockpile could be replaced by a stockpile of sustainable weapons. Thereafter, that stockpile could continue to be modernized at the same rate on a five year cycle.

### **Construction of a Consolidated Nuclear Production Center (CNPC)**

To meet the responsive infrastructure aspects of the New Triad, the Task Force recommends that the NNSA consolidate all nuclear explosive package production, assembly, and disassembly activities to one location. This site should be a collection of modern plutonium and uranium production facilities with 21<sup>st</sup> century cutting-edge nuclear component production, manufacturing, and assembly technologies, all at one location. The site should be designed to achieve minimum production rates of 125 pits and 125 weapons to the stockpile/year, 125 disassemblies/year, and 50 surveillances/year, with single shift operation. These numbers were proposed to and accepted by the DoD as representative of a responsive and productive nuclear weapons Complex. The site for the CNPC should not be the result of a competition. Rather it should be selected by the President, based on national security needs, upon advice from the Secretaries of Energy and Defense, and in consultation with the US Congress. We highly recommend that this site be underground. Prior to the operation of the CNPC, the RRW weapons should be assembled at the DAF facility at the Nevada Test site. The CNPC is not proposed as a location to store nuclear weapons, but weapon components and materials only.

### **Consolidation of SNM**

To address the escalating security costs to the Complex and reduce exposure to the current and future terrorist threat to the Complex, the Task Force recommends consolidating all Category I and II SNM and weapon primary and secondary components, to the CNPC. Note that an underground CNPC offers the greatest safety and cost savings against future as yet unspecified Design Basis Threats. This will substantially reduce Complex exposure to terrorist threats while increasing Complex efficiency in transportation, security, and other operating areas. In addition, this action will reduce if not eliminate the exposure of communities contiguous to the future weapon Complex sites that could be targets of terrorist attacks. This consolidation will not be fully realized until the entire cold war stockpile is dismantled.

## **Dismantlement of the Cold War Stockpile**

To demonstrate to the world that the US is not entering a new phase of arms build-up, and while building the sustainable stockpile of the future, the Task Force recommends that Pantex and Y-12 be directed to focus on dismantlement of the entire Cold War stockpile. Pantex and Y-12 have the authorization basis to assemble and disassemble weapons with conventional high explosives and other materials associated with cold war weapons. This step coupled with the production of the RRW offers the only credible path to potentially reducing the number of nuclear weapons while maintaining our national security posture. The dismantled SNM components and subsystems would be sent to the CNPC for long term storage or reuse, or sent to other locations in the DOE complex for non-weapon disposition.

## **Establish the Office of Transformation**

To achieve the responsive nuclear weapons Complex of 2030, the Task Force recommends that the DOE create an Office of Transformation. This office is an agent of change, focusing on transforming the Complex into the responsive infrastructure, constructing the CNPC, and consolidating SNM. This office should be in place at least until the CNPC is under construction and the DoD regards the Complex as being responsive. The Office of Transformation should facilitate and monitor the following management changes:

***Leadership:*** The Nuclear Weapons Council and the Secretaries of Energy and Defense need to endorse and support the transformation to a responsive Complex and a sustainable stockpile.

***Interdependence and Team Work:*** Contracting incentives (fee, deliverables, contract term, etc.) should be used to promote Complex interdependence and teamwork. The Task Force recommends that all mission critical facilities in the Complex become user facilities and that redundant facilities be closed. Centers of excellence or lead laboratory designation for major technology areas should be encouraged.

***Rationalizing operating decisions and management options:*** A risk-informed cost-benefit analysis should be performed on all programmatic, safety, and security recommendations. Rational decision making should balance risks and benefits while implementing change. No program should be implemented without clear written requirements and a cost estimate to complete. The NNSA Administrator should selectively apply DOE orders in a manner consistent with the unique nature of the NNSA mission.

A facet of this recommendation is that a substantial improvement in the management and direction of the Complex must be realized for the Complex to be agile and responsive. This is not an issue of architecture or organization; it is an issue of leadership and empowerment.

## **The Consequences**

The President's directive of a stockpile of 1700-2200 nuclear weapons by 2012 permits a smaller-scale Complex. The capabilities-based deterrence posture, as articulated by the Department of Defense in their New Triad, sets the tone for a new type of Complex. In tandem, the reduced stockpile and the New Triad should result in a smaller, more agile, more innovative, more responsive, and thus more potent Complex, a Complex so feared and so respected that no nuclear weapon is ever used; that is the true metric of successful deterrence.

The above recommendations are deemed to be logical first steps to realize a responsive nuclear weapons Complex. The Task Force performed an assessment of the financial impact of our recommendations on near term DOE nuclear weapons Complex funding requirements and total Complex costs over the next 25 years. Our analysis was by no means complete nor as detailed as we desired, but was the best possible given the constraints. We focused on analyses of the sensitivity to specific actions. Implementing all recommendations can be done with little or no budget increase if one is willing to reduce diversity in the current stockpile, reduce redundancy in the Complex, reduce employment at each site and accept some degree of future risk. On the other hand, with budget increases in the next 10 years one can implement the recommendations with little or no compromise to the current stockpile, the current employment at the sites, and little future risk. There is of course a continuum between the two options.

Furthermore, we respectfully submit that the status quo is not an option. The status quo is neither technically credible nor financially sustainable. The Complex today is lacking vision, agility and a commitment to deliver. We offer a vision for a responsive and modern nuclear weapon Complex of the future that will be a critical element of the New Triad, our overall deterrence posture, and our national security capability well into the future.

## **Concluding Remarks**

I submit that if this Administration chooses and this Congress agrees that nuclear weapons and a responsive nuclear weapons Complex are critical to the long term national security of this great nation, then the vision for the Complex is not far different from what we have proposed. If one agrees on the vision and the necessity of nuclear deterrence, there are many paths that one can take to achieve the end result, and I may not have articulated the optimum. However, the vision and the path should not be chosen based on jobs or domestic political constituency. It should be based on the future security interests of the Nation.

I close by drawing your attention again to the report published by Sandia National Laboratories, mentioned in my introduction, summarizing the consequences of the numerous studies of the Complex conducted since 1980. It is sobering to realize that our Task Force proposes steps not that different from what has been proposed by others repeatedly over the last 25 years. The fact that little has changed is a testament to the resistance to change in the Complex, the DOE, and the DoD. Further, this is a consequence of a Congress who has not been willing to support change through legislation.

For a Nation that could put a man on the moon in less than 10 years; for a Nation that designed, built and tested the first nuclear weapons without the benefit of computers and previous nuclear test results; for a Nation that can spend billions on a war in another Continent, for that Nation to say we do not have the money nor the ability to achieve a modern nuclear deterrent and associated Complex of the future in 10 years is truly incredible.

I believe it can be done; the Congress and the Administration just needs to decide to do it.

This concludes my testimony. However, I was also asked to specifically provide perspectives on budget constrained alternatives that do not include a CNPC. There are two aspects to the CNPC: first a modern production capability; second a secure site for consolidation of SNM to reduce risk and minimize security costs. The current Complex sites and facilities were not designed for modern production or to meet the security requirements associated with the Design Basis Threat, which continues to evolve. In addition, the current sites have deteriorated infrastructure, which need to be repaired if it is decided to continue the use of these sites long into the future. Further, the CNPC would be designed for these applications, not retrofitted, and would be designed for the DBT. Both are important considerations. Thus, the infrastructure and security investments in the individual current Complex sites will greatly exceed the cost of the CNPC. A more detailed response is in my written statement.

Mr. Chairman and members of the Committee, I thank you for your attention and I am prepared to take questions.

## A More Detailed Response to the Alternatives to a CNPC.

I was asked to specifically provide perspectives on budget constrained alternatives that do not include a CNPC. The comments in the remaining portions of my statement are my own and should not be construed as representing a consensus of the Task Force, in whole or in part.

There are two aspects to the CNPC, one modern production, the second the site for consolidation of SNM to reduce risk and minimize security costs. I shall treat each separately.

### 1. Modern Production.

#### a. Modernization in place:

There are 3 locations that currently perform functions critical to the production of nuclear weapons: Pantex for assembly and disassembly; TA 55 at LANL for plutonium processing and pit machining; Y-12 for secondary assembly/disassembly, highly enriched uranium processing and machining, and case manufacture. The relevant facilities at all three locations are antiquated and need to be modernized. For example, as of the conclusion of our report, TA 55 did not have one numerically controlled machine or non-contact metrology devices to produce and measure pits, the most critical precision component in a weapon. They are using technologies and machines, many of which were built in the 70's, imported from Rocky Flats. The situation is not much better at Y-12 or Pantex. In addition, Y-12 and LANL require major upgrades to their infrastructure to support ongoing SNM work. So, if you put in a new/upgraded SNM production facility at each location, you will need to upgrade the infrastructure and the security as well. Here are the projected capital costs for modernization in place of the complex production capability (these projections are lower bounds and still increasing):

#### LANL costs to support TA 55 modernization for pit manufacturing:

CMRR building:	~\$850 M*
TA 55 building upgrade and equipment:	~\$250 M
TA 55 perimeter security:	~\$250 M
Infrastructure modernization (SNM waste reprocessing, etc.):	~\$ 80 M*

#### Y-12 costs to support uranium production and processing:

HEUMF for HE storage:	~\$320 M*
EUMF for uranium production and processing:	~\$750 M
Infrastructure modernization (water, electrical, steam, etc.)	~\$140 M*
Security systems	~\$130 M*

#### Pantex new evaluation facility and infrastructure:

Infrastructure modernization:	~\$130 M*
New evaluation facility and HE processing facility	~\$130 M*

\* means that these activities are currently in process, although many just started  
 If we modernize in place, instead of building a CNPC, we will invest ~\$3 B in modernizing 3 separate sites, each of which is a challenge to secure from a physical security perspective. Because they are at three different locations, there are no savings in

shared infrastructure and shared operating expenses; in addition, SNM transportation costs will grow.

**b. Modernizing only plutonium and uranium production:**

Great benefit is achieved by consolidating all of the plutonium and uranium work at Y-12. These are the precision manufacturing and associated production chemistry facilities for plutonium and highly enriched uranium. This approach will remove production from LANL, one of the premier design labs, which will have salutary benefits to LANL as a multi-purpose national security research institution. Some savings would be realized as compared to modernizing all three sites separately, and definite operating efficiencies are realized. This may reduce capital costs by ~ \$300 M from modernizing in place. The cost savings could be substantially greater if the CMRR currently in construction at LANL is only a Category III or below research facility. There are some savings in operating and SNM transportation costs.

**c. Modernizing assembly and pit production at one location:**

Take advantage of the Device Assembly Facility that already exists at the Nevada Test Site and equip it to be the modern assembly/disassembly facility. Locate a modern plutonium processing and pit production facility contiguous to the DAF. NTS very likely already has the AB, EIS and NEPA approvals to support both activities. It is unclear what the costs will be, but security savings alone should be of the order of \$300 M, and you should avoid the capital improvements at Pantex, which save another \$130 M, but you will incur the cost of a MPF, which will exceed \$ 1.5 B unless it is underground.

**2. Alternatives to Consolidating SNM:**

Since this was one of the benefits of the CNPC, there are few things that can be done to reduce the security and handling costs of having category I and II SNM when SNM is distributed among multiple sites. Nevada will always be a SNM site, so it should be the location to maintain all of the testing with SNM. In support of that, I would propose all of the combined HE and SNM testing at LANL (DARHT II and the gas guns) be relocated to NTS, along with all of the Site 300 capability from LLNL. In addition, I would remove all plutonium category I and II material from LLNL immediately and send it to TA 55 at LANL or to the DAF at the NTS. LLNL can and likely should continue to perform the research, but actual sample work would be done at NTS or LANL. TA 55 has space issues, but that is because the DOE is using part of the TA 55 space for nuclear power fuel research. That work should be transferred to other DOE facilities. Plutonium work at TA 55 is unique and critical to the weapons program. These actions will reduce security costs and result in some operating efficiencies.

**Another approach**

BWXT currently provides services to the US nuclear Navy at their Lynchburg, VA facility. The Government could relocate all uranium work to the BWXT facility in Lynchburg, in contractor provided facilities. The government would retain control over all SNM inventory and specify security considerations. It is anticipated that substantial savings would be realized to all of NNSA, both in Navy reactor programs and in the nuclear weapons production complex. Y-12 would then be closed and remediated.

**Is the CNPC too expensive?**

I now return to the issue as to whether the CNPC is too expensive. As evidenced in the previous discussions, modernizing in place is an expensive alternative. Many of the current sites have deteriorated infrastructure, which need to be repaired if it is decided to continue their use long into the future. And, as in your own home, the cost to refurbish and modernize an old structure is substantially greater than building new. Thus, the infrastructure investments in the current complex alone would pay for a major portion of the CNPC. The CNPC would be designed for these applications, not retrofitted, and would be designed for the DBT, hopefully as an underground installation. Both are important considerations.

The largest driver in CNPC cost is the plutonium manufacturing. The need for plutonium manufacturing is independent of the lifetime of plutonium, although that is an important consideration in timing it is not the only consideration. Rather, in the next 15 years, a number of weapons will need to be refurbished. For some of them, refurbishment does mean making new pits, albeit of the current design. During that refurbishment, it is highly likely that new pits may also be required to implement safety and reliability requirements, independent of desired margin improvements, as discussed for the RRW. If you look at the numbers, the current TA 55 facility cannot meet the workload, unless you reduce the number of weapons in the deployed stockpile. The only way to meet that workload is to have a new pit production capability. This was another facet that entered into our consideration of 125 pits to the stockpile/year as a requirement from the CNPC, even with TA 55 producing 50 pits to the stockpile/year.

So, if pit lifetime is not an issue, and if we will not redesign the pits to achieve greater surety, use control, or improved margin, and if we reduce the number of warheads in the deployed stockpile, the TA 55 facility at LANL might be adequate. However, if we might need the capability, then you need an MPF. And once you decide to build an MPF, putting it at a location that could become the CNPC will result in substantial capital cost reductions (true savings) and operating cost avoidance, to the Complex. In summary, the CNPC is a modest cost in the overall DOE and DoD nuclear weapon system operating budgets in the context of value for sustaining a viable nuclear weapon deterrence. That investment grants future administrations and defense professionals greater flexibility to meet truly unanticipated future threats to our national security.